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A new subgenus of the genus Pteronemobius JAC. and some new species of the tribe Pteronemobiini

(Orthoptera, Gryllidae)

By

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With 44 figures in the text

Abstract

The genus *Pteronemobius* JAC. is divided into two subgenera: *Stilbonemobius* subgen. nov. and *Pteronemobius* s. str. Five new species of this genus and five new species of the genus *Dianembius* VICK. are described.

This paper is based on the material on crickets of the Zoological Institute, Academy of Sciences, Leningrad, USSR (ZIN) and the Museum für Naturkunde, HUMBOLDT-Universität, Berlin, DDR (MHU). Author is very grateful to Dr. K. K. GÜNTHER for loan of unidentified material of latter institution.

Subgenus Stilbonemobius subgen. n.

Type species: *Nemobius minutus* BOLIVAR, 1910.

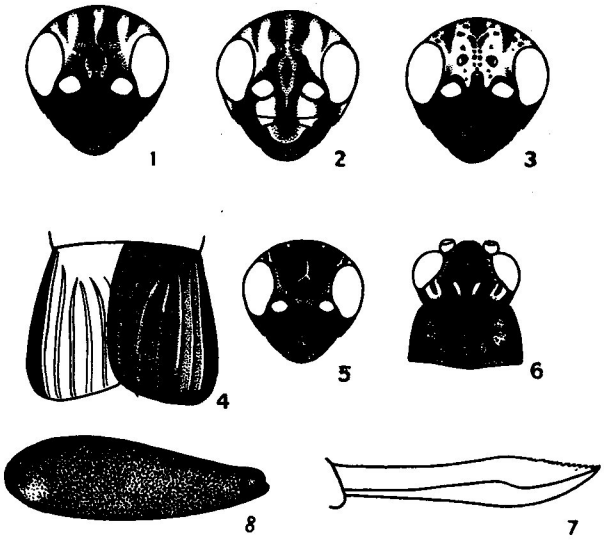
Small crickets with shining and feebly pubescent body. Colouration uniformly blackish-brown. Head rather small, without pattern. Pronotum narrowing in front, without pattern too. Inferior edge of lateral lobes of pronotum noticeably concave. Elytra uniformly blackish or brownish, shining. Legs without pattern. Posterior tibiae with 3 external and 3—4 internal spines. Inferior spurs of posterior tibiae almost equal. Male genitalia with membranous or semimembranous superoposterior processes (figs. 13—16, 21—22).

Included species: *Nemobius niveipalpis* SJOSTEDT, 1909, *Pteronemobius monochromus* CHOPARD, 1955, *Pteronemobius (Stilbonemobius) troitzkyi* sp. n., *Pteronemobius (Stilbonemobius) longispinus* sp. n. and, possibly, some other african species with 3 external spines of posterior tibiae.

Diagnosis: This subgenus distinct from subgenus *Pteronemobius* by shining body, uniformly blackish-brown colouration without pattern, posterior tibiae with 3 external spines (subgenus *Pteronemobius* with 4 external spines of posterior tibiae), almost equal inferior spurs and membranous or semimembranous superoposterior processes of male genitalia (figs. 9—16, 19—24).

Pteronemobius (Stilbonemobius) troitzkyi sp. n.

Male (holotype): Size very small. Colour almost black. Head black with dark palpi. Antennae dark brown. Pronotum feebly narrowing in front, black. Elytra extending to the apex of 8th abdominal tergite, blackish-brown, with 2 chords coalescent together in the middle (fig. 28). Wings absent. Legs short and stout, brown. Posterior femora lighter



Figs. 1—8.
1—3 — head, frontal view: 1 — *Pteronemobius pseudotaprobanensis* sp. n.; 2 — *P. maculosus* (SAUSS.); 3 — *Dianemobius pulchellus* sp. n. 4 — elytra of *D. decipiens* sp. n., dorsal view. 5—7 — *D. chinensis* sp. n.: 5 — head, frontal view; 6 — head and pronotum, dorsal view; 7 — ovipositor, lateral view. 8 — external face of posterior femur of *D. medvedevi* sp. n., lateral view.

at base and darker at apex. Posterior tibiae with rather short spines; last internal spine almost as long as nearest spur but noticeably shorter than metatarsus (fig. 39). Abdomen black above and brownish beneath. Cerci brown. Genitalia with rather long inferoposterior processes (figs. 15—16, 22).

Female: General aspect and colouration as in male. Elytra blackish, a little rounded at apex, noticeably shorter than elytra of male, with 6 parallel veins of dorsal field; transverse veinlets scarce. Wings absent. Posterior tibiae with 3 internal spines. Ovipositor rather short, yellowish-brown, with apical valves feebly denticulated (fig. 33).

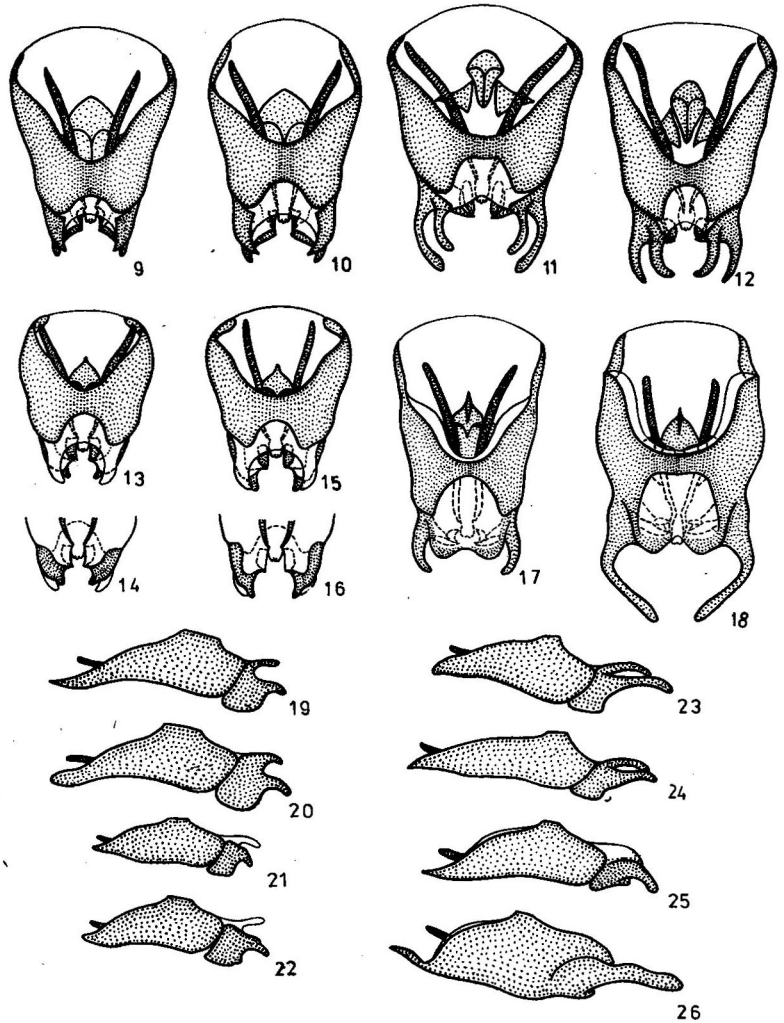
Length: body of male 5 mm, female 4.5 mm; pronotum of male 0.9 mm, female 1 mm; elytra of male 2.8 mm, female 2 mm; posterior femora of male 3.5 mm, female 3.5 mm; ovipositor 2.1 mm.

Material: Tanzania, Bukoba (Victoria Nyanza), 18—20. V. 1912, 1 male (holotype), 1 female (paratype), leg. TROITZKY (ZIN).

Diagnosis: Very similar to *P.* (*S.*) *minutus*, but distinct from it by almost black colouration, dark palpi, coalescent chords in male elytra (figs. 27—28) and longer inferoposterior processes of male genitalia (figs. 13—16, 21—22). Distinct from other species of genus *Pteronemobius* by small size and form of male genitalia.

Pteronemobius (Stilbonemobius) longispinus sp. n.

Female (holotype): Size small. Colour brown above and yellowish-brown beneath. Head brown with rather light palpi. Antennae brownish. Pronotum noticeably narrowing in front, brown. Elytra rounded at apex, extending almost to the apex of abdomen, brownish with light humeral band. Dorsal field of elytra with 7 parallel veins; transverse veinlets scarce. Wings long, yellowish. Legs rather long and slender, yellowish-brown. Posterior femora one-coloured. Posterior tibiae with 3 very long internal spines; last internal spine



Figs. 9—26. Male genitalia.
9 — *Pteronemobius heydeni* (FISCH.), dorsal view; 10 — *P. madagascariensis* sp. n., id.; 11 — *P. pseudotaprobanensis* sp. n., id.; 12 — *P. maculosus* (SAUSS.), id.; 13 — *P. minutus* (BOL.), id.; 14 — id., ventral view; 15 — *P. troitzkyi* sp. n., dorsal view; 16 — id., ventral view; 17 — *Dianemobius batavicus* sp. n., dorsal view; 18 — *D. pulchellus* sp. n., id. 19—26 — lateral view: 19 — *P. heydeni*, 20 — *P. madagascariensis*; 21 — *P. minutus*; 22 — *P. troitzkyi*; 23 — *P. pseudotaprobanensis*; 24 — *P. maculosus*; 25 — *D. batavicus*; 26 — *D. pulchellus*.

noticeably longer than nearest spur but almost as long as metatarsus (fig. 40). Abdomen and cerci yellowish-brown. Ovipositor rather long, yellow (apical valves wanting) (fig. 34).

Male unknown.

Length: body 6 mm, body with wings 10.5 mm, pronotum 1.2 mm, elytra 3.3 mm, posterior femora 4.4 mm, ovipositor without apical valves 2.5 mm (with apical valves, possibly, near 3 mm).

Material: Guinea, Conakry (Camayen), 29. XI. 1926, 1 female (holotype), leg. IVANOV (ZIN).

Diagnosis: This species differs from species of this subgenus by slender posterior legs with long tibial spines and longer ovipositor. It differs from other african species of genus *Pteronemobius* with 3 external spines of posterior tibiae by followings:

1. from *P. amplipennis* CHOP. by uniformly brownish antennae (antennae of *P. amplipennis* with whitish part);
2. from *P. obscurior* CHOP. by lighter colour (*P. obscurior* black) and longer ovipositor;
3. from *P. dumosus* KARSCH by equal inferior spurs of posterior tibiae (spurs of *P. dumosus* very inequal);
4. from *P. subapterus* CHOP. by long elytra and 3 internal spines of posterior tibiae of female (*P. subapterus* with very short elytra and 4 internal spines of posterior tibiae of female);
5. from other species by uniformly brown colour without pattern.

Pteronemobius (Pteronemobius) madagascariensis sp. n.

Male (holotype): Size small. Colour blackish-brown. Head brown, darker above and lighter beneath. Posterior part of vertex with indistinct almost black longitudinal lines. Palpi dark brown. Pronotum pubescent, with almost parallel lateral sides. Disk of pronotum brown with yellowish-brown spots along lateral sides. Lateral lobes of pronotum black with brown band along inferior edge. Elytra extending almost to the apex of abdomen, uniformly brown. Venation very similar to *P.* (*P.*) *heydeni* (FISCH.) (fig. 29). Wings absent. Legs long and stout, brown. Posterior femora with dark brown oblique stripes on external face. Posterior tibiae with rather long spines which shorter than metatarsus. Inferior spurs of posterior tibiae very inequal. Abdomen blackish above and yellowish-brown beneath. Cerci brown. Genitalia with hooked superoposterior processes (fig. 10, 20).

Female unknown.

Length: body 6 mm, pronotum 1.2 mm, elytra 3.2 mm, posterior femora 4.4 mm.

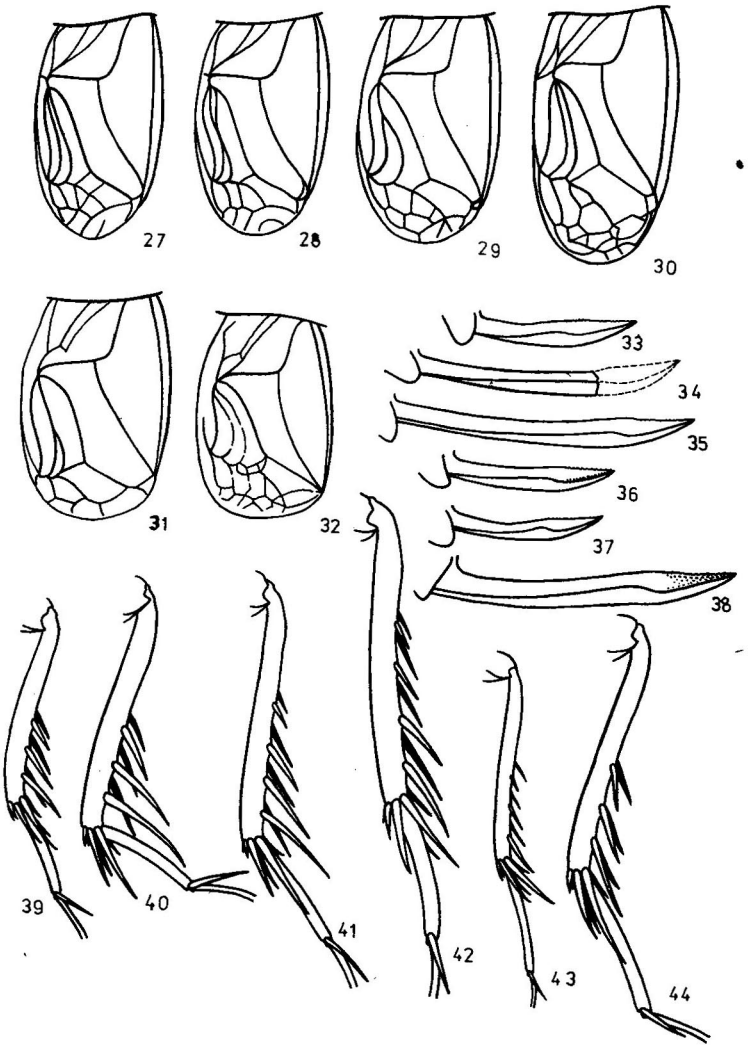
Material: Madagascar, Fort Dauphin, 1899, 1 male (holotype), leg. SIKORA (ZIN).

Diagnosis: Very similar to *P.* (*P.*) *heydeni*, but distinct from it by very dark colouration and hooked superoposterior processes of male genitalia (figs. 9—10, 19—20). Distinct from other species of subgenus *Pteronemobius* as well as *P.* (*P.*) *heydeni* by peculiarities of elytral chords (figs. 29—30) and form of male genitalia.

Pteronemobius (Pteronemobius) pseudotaprobanensis sp. n.

Male (holotype): Size medium for the genus. Colouration rather variegated, similar to *Dianemobius (Polionemobius) taprobanensis* (WALK.). Head dark brown; frons almost black; vertex with 5 light longitudinal lines (fig. 1). Palpi dark brown with black apex. Pronotum pubescent, feebly narrowing in front. Disk of pronotum yellowish-brown with indistinct dark spots. Lateral lobes of pronotum almost black. Elytra extending to the apex of abdomen, yellowish-brown with some indistinct darker spots. Venation with normal chords (fig. 30). Wings absent. Legs long and stout, uniformly dark brown. Posterior femora with reddish hue. Spines of posterior tibiae rather short, noticeably shorter than metatarsus, brown with light base and apex. Inferior spurs of posterior tibiae very inequal. Abdomen blackish. Cerci brown. Genitalia with long and curved posterior processes; inferoposterior processes with thickened apex, noticeably longer than superoposterior processes (figs. 11, 23).

Female: General aspect and colouration as in male. Elytra narrowly rounded at apex, with 7 parallel veins of dorsal field; transverse veinlets scarce. Wings absent. Ovipositor long, brownish, with apical valves feebly denticulated.



Figs. 27—44.
27—32 — dorsal field of male elytrum: 27 — *Pteronemobius minutus* (BOL.); 28 — *P. troitzkyi* sp. n.; 29 — *P. madagascariensis* sp. n.; 30 — *P. pseudotaprobanensis* sp. n.; 31 — *Dianemobius pulchellus* sp. n.; 32 — *D. batavicus* sp. n.. 33—38 — ovipositor, lateral view: 33 — *P. troitzkyi*; 34 — *P. longispinus* sp. n.; 35 — *P. pseudotaprobanensis*; 36 — *P. australicus* sp. n.; 37 — *D. medvedevi* sp. n.; 38 — *D. decipiens* sp. n. 39—44 — internal face of female posterior tibia and metatarsus, lateral view: 39 — *P. troitzkyi*; 40 — *P. longispinus*; 41 — *P. australicus*; 42 — *P. pseudotaprobanensis*; 43 — *D. medvedevi*; 44 — *D. decipiens*.

Length: body of male 6—7.7 mm, female 7 mm; pronotum of male 1.2—1.3 mm, female 1.5 mm; elytra of male 3.5—4.5 mm, female 4.5 mm; posterior femora of male 4.5—5 mm, female 5.2 mm; ovipositor 4 mm.

Material: Tanzania, Bukoba (Victoria Nyanza), 18—20. V. 1912, 1 male (holotype), 1 female (paratype), leg. TROITZKY (ZIN). Cameroun (Jaunde Stat), 1 male with long wings (paratype), leg. ZENKER (MHU).

Diagnosis: Similar to *P. (P.) maculosus* (SAUSS.), but distinct from it by pattern of head (figs. 1—2) and male genitalia (figs. 11—12, 23—24). Distinct from *P. (P.) quadrilineatus* CHOP. by long posterior processes of male genitalia, from *P. (P.) crassus* CHOP. by very dark palpi and uniformly dark brown posterior femora, from other species of subgenus *Pteronemobius* by very contrasted striped colouration of vertex and form of male genitalia.

Pteronemobius (Pteronemobius) australicus sp. n.

Female (holotype): Size small. Body uniformly blackish-brown, shining, similar to subgenus *Stilbonemobius*. Head almost black above and brownish beneath. Posterior part of vertex with 4 indistinct yellowish-brown spots. Antennae dark brown. Pronotum strongly narrowing in front, uniformly black, pubescent. Elytra extending to the apex of abdomen, narrowly rounded at apex, brownish with greenish-bluish refluxand and with light humeral band. Dorsal field of elytra with 6—7 parallel veins; transverse veinlets scarce. Wings long, yellowish. Legs rather long and slender, brown. Posterior femora one-coloured. Posterior tibiae with short external spines and long internal spines (fig. 41). Inferior spurs of posterior tibiae insignificantly inequal. Abdomen blackish above and brownish beneath. Cerci brown. Ovipositor short, brownish, with noticeably denticulated apical valves (fig. 36).

Male unknown.

Length: body 6 mm, body with wings 10.5 mm, pronotum 1.2 mm, elytra 3.7 mm, posterior femora 4.5 mm, ovipositor 2.1 mm.

Material: Australia, Northern Territory, Katherine River, 12. XI. 1979, 1 female (holotype), leg. G. S. MEDVEDEV (ZIN).

Diagnosis: This species differs from *P. (P.) truncatus* (SAUSS.) by uniformly black pronotum, head without light bands on the vertex and shorter ovipositor, from *P. (P.) unicolor* CHOP. by darker colouration, small size and significantly shorter ovipositor. It differs from other species of subgenus *Pteronemobius* by uniformly dark colour of head; almost equal inferior spurs and long internal spines of posterior tibiae.

Dianemobius (Dianemobius) chinensis sp. n.

Female (holotype): Size very small. Colouration very contrasted. Head blackish-brown with 6 short white longitudinal lines on posterior part of vertex and light pattern on anterior part of head (figs. 5—6). Antennae brown. 4th and 5th joints of maxillary palpi whitish; the others blackish. Pronotum noticeably narrowing in front, short; its length about $^1/_2$ as its width. Lateral lobes of pronotum black. Disk of pronotum dark with indistinct pattern (fig. 6). Elytra extending to the apex of abdomen, blackish-brown. Dorsal field of elytra with 6—7 parallel veins which are at a very short distance each from other. Lateral field of elytra with 4 parallel veins. Transverse veinlets scarce. Wings long, yellowish-brown. Legs rather short and stout, whitish with blackish spots. Posterior femora with 2 black transverse bands on external and internal face and with 1 large black spot on superior part of external face. Posterior tibiae with rather short whitish spines; some from these spines with darker part in the middle. Internal inferior spurs absent. Abdomen blackish above and whitish beneath. Cerci yellowish-brown. Ovipositor with widening near apex; its apical valves very feebly denticulated (fig. 7).

Male unknown.

Length: body 4.2 mm, body with wings 8.3 mm, pronotum 0.8 mm, elytra 2.7 mm, posterior femora 3.3 mm, ovipositor 1.7 mm.

Material: China, Fujian, Fuzhou (Kushan), 28. VIII. 1957, 1 female (holotype), M. S. JANG (ZIN).

Diagnosis: It differs from all other species of this subgenus by small size, colouration of head and form of ovipositor. New species similar with *Pteronemobius chibae* (SHIR.) which, possibly, is member of subgenus *Dianemobius* VICK. Distinct by blackish-brown head with white lines on posterior part of vertex and short pronotum. Vertex of *P. chibae* light brownish or reddish and its pronotum rather long (length of pronotum about $^2/_3$ as its width).

Dianemobius (Polionemobius) pulchellus sp. n.

Male (holotype): Size small. Colouration blackish-brown with light pattern. Head dark brown beneath and yellow above. Vertex with 3 dark longitudinal lines and numerous small dark spots (fig. 3). Antennae yellowish-brown. Maxillary palpi brownish with 3th and 5th joints almost black. Pronotum shining, noticeably narrowing in front. Disk of pronotum yellow with numerous small dark spots. Lateral lobes of pronotum black. Elytra extending to the apex of 7th abdominal tergite, blackish-brown with narrow light humeral line. Chords of elytra similar to *Pteronemobius heydeni* and *P. madagascariensis* (figs. 29, 31). Wings absent. Legs rather short and stout, dark brown. Posterior femora with blackish oblique stripes on external face. Spines of posterior tibiae rather short, brown with light base and apex. Inferior spurs of posterior tibiae almost equal. Abdomen blackish. Cerci dark brown. Genitalia with two very long and curved inferoposterior processes and very short superoposterior lobes (figs. 18, 26).

Female unknown.

Length: body 5.8 mm, pronotum 1.2 mm, elytra 3 mm, posterior femora 3.9 mm.

Material: Papua—New Guinea, Wau, 19. II. 1977, 1 male (holotype), leg. G. F. KURTSHEVA (ZIN).

Diagnosis: This species differs from similar species by original colouration and peculiar form of male genitalia.

Dianemobius (Polionemobius) batavicus sp. n.

Male (holotype): Size very small. Colouration uniformly dark brown. Head uniformly dark brown. Antennae and palpi brown. Pronotum pubescent, feebly narrowing in front, with dark brown disk and almost black lateral lobes. Anterior part of this disk with some very small yellowish spots. Elytra extending to the apex of abdomen, brownish (dorsal field lighter and lateral field darker). Chords of elytra normal but almost indistinct (fig. 32). Wings absent. Legs rather short and stout, brownish. Posterior femora with dark brown oblique stripes on external face and whitish spot near apex on internal face. Spines of posterior tibiae rather short, brown with light apex. Spurs of posterior tibiae partly wanting. Abdomen dark brown above and yellowish-brown beneath. Cerci brown. Genitalia with slender inferoposterior processes and rather long superoposterior lobes (figs. 17, 25).

Female unknown.

Length: body 4.3 mm, pronotum 0.9 mm, elytra 2.8 mm, posterior femora 3.2 mm.

Material: Java, Djakarta (Batavia), 27. IV. 1907, 1 male (holotype), leg. O. JOHN (ZIN).

Diagnosis: Distinct from similar species by uniformly dark colouration, brown palpi, rather stout posterior femora and form of male genitalia.

Dianemobius (Polionemobius) medvedevi sp. n.

Female (holotype): Size very small. Colouration uniformly blackish-brown. Head uniformly dark brown. Antennae brown. Palpi almost black. Pronotum shining, noticeably narrowing in front, uniformly black. Elytra extending almost to the apex of abdomen, with brownish dorsal field (with 4 parallel veins) and blackish lateral field (with 5—6 parallel veins); transverse veinlets scarce. Wings long, yellowish. Legs long and very slender, uniformly blackish with lighter base of femora and tarsi. Posterior femora very slender (fig. 8). Posterior tibiae with very short spines (fig. 43). Inferior spurs of posterior tibiae almost equal. Abdomen blackish. Cerci brownish. Ovipositor rather short, yellow, with very feebly denticulated apical valves (fig. 37).

Male unknown.

Length: body 4.8 mm, body with wings 8.8 mm, pronotum 1 mm, elytra 3 mm, posterior femora 3.5 mm, ovipositor 1.9 mm.

Material: Australia, Northern Territory, Tennant Creek, 10. XI. 1979, 1 female (holotype), leg. G. S. MEDVEDEV (ZIN).

Diagnosis: It differs from similar species by uniformly blackish-brown colouration, dark palpi, very slender posterior femora and short ovipositor.

Dianemobius (Polionemobius) ? decipiens sp. n.

Female (holotype): Size medium for the genus. Colouration brown. Head uniformly dark brown. Antennae and palpi brownish. Pronotum shining, with parallel lateral sides, uniformly reddish-brown. Elytra coriaceous, extending to the middle of 4th abdominal tergite, dark brown with 6—7 parallel yellowish-brown veins at dorsal field and 4 parallel dark brown veins at lateral field (fig. 4), without transverse veinlets. Wings absent. Legs rather long and stout, brownish. Anterior tibiae without tympana. Posterior femora yellowish-brown with reddish-brown oblique stripes on external face. Posterior tibiae with rather short spines (last internal spine long only) and almost equal inferior spurs (fig. 44). Abdomen and cerci brownish. Ovipositor yellowish-brown, long, with denticulated apical valves (fig. 38).

Male unknown.

Length: body 5.7—6.5 mm, pronotum 1.2—1.4 mm, elytra 1.6—2 mm, posterior femora 4.7 mm, ovipositor 3.1—3.5 mm.

Material: Java, Tjibadak, 1500—1400 m, 17. VII. 1962, 1 female (holotype), leg. I. S. DAREVSKY (ZIN). Java, 1 female (paratype), leg. DE HAAN (MHU).

Diagnosis: It distinct from similar species by anterior tibiae without tympana and short coriaceous elytra.

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